

FORM 2

THE PATENTS ACT, 1970

(39 of 1970)

&

The Patent Rules, 2003

COMPLETE SPECIFICATION

(See Section 10 and Rule 13)

**SUPERCONDUCTIVE CONTACTS IN BULK OXIDE SUPERCONDUCTORS FOR
HIGH-CURRENT APPLICATIONS AND METHOD FOR FORMING THE SAME**

**COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH,
Rafi Marg, New Delhi – 110 001, India, an Indian Registered Body
incorporated under the Registration of Societies Act (XXI of 1860).**

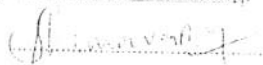


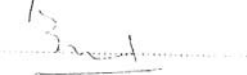
The following specification particularly describes and ascertains the nature of the invention and the manner in which it is to be performed:

SUPERCONDUCTIVE CONTACTS IN BULK OXIDE SUPERCONDUCTORS FOR HIGH-CURRENT APPLICATIONS AND METHOD FOR FORMING THE SAME

Abstract

The invention provides a superconductive contact structure comprising a bulk oxide superconductor and a strip or rivet of a superconducting tape, the latter fixed and bonded on the former by mechanical and thermal treatments, provides extremely low specific contact resistance of the order of nano ohm cm^2 and excellent adhesive strength. The invented contact enables bulk oxide superconducting devices to minimize the end heating during operation at very high currents and allows to carry significantly larger critical currents compared to conventional contacts. The invention also provides a method for forming the invented contact.

Ref NO:-0003NF2006
Dated 01.04.2006

FORM I THE PATENTS ACT 1970 (29 of 1970) & The Patents Rules, 2003 APPLICATION FOR GRANT OF PATENT (See section 7, 54 & 135 rule 20(1))		(FOR OFFICE USE ONLY) Application No: Filing Date: Amount of Fee Paid: CBR No: Signature:	
1. APPLICANTS			
Name		Nationality	Address
COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH		an Indian registered body incorporated under the Regn. of Soc Act (Act XXI of 1860)	Anusandhan Bhawan, Rafi Marg, New Delhi - 110 001, India.
2. INVENTORS(S) (Name, Nationality and Address)			
THIENNAVARAJAN SUBRAMANIAN; ALOYSIUS RAJAPPAN PADMAVATHY GURUSWAMY PERUMAL SYAMAPRASAD UPENDRAN ALL OF INDIAN NATIONALS AND OF REGIONAL RESEARCH LABORATORY (CSIR), TRIVANDRUM - 695 019, KERALA, INDIA.			
3. TITLE OF THE INVENTION: SUPERCONDUCTIVE CONTACTS IN BULK OXIDE SUPERCONDUCTORS FOR HIGH-CURRENT APPLICATIONS AND METHOD OF FORMING THE SAME			
4. ADDRESS FOR CORRESPONDENCE OF APPLICANT IN INDIA		Telephone No. : 2696-2560; 2696-5613	
Head, IPM Division, CSIR, NISCAIR Building, 14 Satsang Vihar Marg, New Delhi - 110067.		Fax No. : 2696-8819	
		E-mail: ipmd@vsnl.net	
5. PRIORITY PARTICULARS OF THE APPLICATION (S) FILED IN CONVENTION COUNTRY			
Country	Application Number	Filing Date	Name of the Applicant
6. PARTICULARS OF THE FILING PATENT COOPERATION TREATY (PCT) NATIONAL PHASE APPLICATION			
International application number		International filing date as allotted by the receiving office	
7. PARTICULARS FOR FILING DIVISIONAL APPLICATION			
Original (first) application number		Date of filing of Original (first) application	
8. PARTICULARS FOR FILING PATENT OF ADDITION			
Main application / patent Number		Date of filing of main application	
9. DECLARATIONS:			
(i) Declaration by the inventor (s)			
I/We, the above named inventor (s) is/are the true & first inventor (s) for this invention and declare that the applicant(s) herein is/are my/our assignee or legal representative.			
Signature of the true and first inventor(s)		Dated this _____ day of _____, 200...	
		Name (in full with family name at the beginning)	
		THIENNAVARAJAN SUBRAMANIAN	
		ALOYSIUS RAJAPPAN PADMAVATHY	
		GURUSWAMY PERUMAL	
		SYAMAPRASAD UPENDRAN	

(ii) Declaration by the applicant (s) in the convention country

I/We, the applicant (s) in the convention country declare that the applicant(s) herein is/are my /our assignee or legal representative.

a) Date _____

b) Signature (s) _____

Not Applicable

(c) Name (s) of the signatory. _____

(iii) Declaration by the applicant (s):

I/We, the applicant(s) hereby declare (s) that: -

- ☐ I am / We are in possession of the above-mentioned invention
- ☐ The provisional/ complete specification relating to the invention is filed with this application.
- ☐ The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.
- ☐ There is no lawful ground of objection to the grant of the Patent to me/us.
- ☐ I am/We are the assignee or legal representative of true & first inventors.
- ☐ The application or each of the applications, particulars of which are given in Para 5 was the first application in convention country/countries in respect of my/our invention.
- ☐ I/We claim the priority from the above mentioned applications(s) filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by me/us or by any person from which I/We derive the title.
- ☐ My/our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in Para - 6.
- ☐ The application is divided out of my /our application particulars of which are given in Para - 7 and pray that this application may be treated as deemed to have been filed on _____ under sec.16 of the Act.
- ☐ The said invention is an improvement in or modification of the invention particulars of which are given in Para - 8.

10. Following are the attachments with the application :

- (a) Provisional specification / Complete specification.
- (b) Complete specification (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies), No. of pages _____
No. of claims _____
- (c) Drawings (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies), No. of sheets _____
- (d) Priority documents
- (e) Translation of priority document/Specification/International Search Report.
- (f) Statement and undertaking on Form 3.
- (g) Power of Authority
- (h) Declaration of inventorship on Form 5.
- (i) Sequence listing in electronic form.
- (j) _____

Fee Rs. _____ in Cash/Cheque/Bank Draft bearing no. _____

Date _____ on _____ Bank.

I/We hereby declare that to be true of our knowledge, information and belief the fact and matters stated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this _____ day of _____, 200 _____

To,

The Controller of Patent
The Patent Office, New Delhi.

(_____)

SCIENTIST

Intellectual Property Management Division,
Council of Scientific and Industrial Research.

Note: - *Repeat boxes in case of more than one entry.

* To be signed by the applicant(s) or by authorized registered patent agent otherwise where mentioned

* Tick (✓)/cross(X) whichever is applicable/not applicable in declaration in para- 9.

* Name of the inventor and applicant should be given in full, family name in the beginning.

Complete address of the inventor and applicant should be given stating the postal index no./code, state and country.

* Strike out the column which is/are not applicable. * For sec. See First Schedule

SECTION-B

PLEASE TICK

- | | |
|---|--|
| 1. Has the matter covered in the patent proposal been made public (including publication, seminar etc.). | Yes / No <input checked="" type="checkbox"/> |
| 2. Is the laboratory level work complete. | Yes / No |
| 3. Has the write up (and drawings, if any) and six (6) numbers patent application form 1 been prepared as per the "Guidelines for preparing a patent proposal". | Yes / No <input checked="" type="checkbox"/> |
| 4. Has the patent proposal been checked for novelty and inventive step(s), as compared to the prior art knowledge available throughout the world. | Yes / No <input checked="" type="checkbox"/> |
| 5. Has a survey been done of prior art literature and information available in the public domain. | Yes / No <input checked="" type="checkbox"/> |
| 6. Has a prior art patent search (covering Indian and Foreign patents) been done. | Yes / No <input checked="" type="checkbox"/> |
| 7. Has the relevant prior-art details as obtained in items 5 & 6 above (reference, brief description and drawbacks) been included in the patent write up. | Yes / No <input checked="" type="checkbox"/> |
| 8. Has the novelty and inventive step(s) of the invention been clearly brought out in the write-up for patent proposal. | Yes / No <input checked="" type="checkbox"/> |
| 9. Has the approval of the Director / Competent Authority been taken for this patent proposal. | Yes / No <input checked="" type="checkbox"/> |
| 10. Is this patent proposal to be filed as a joint patent application (i.e. the joint assignees being CSIR and another organisation). | Yes / No <input checked="" type="checkbox"/> |

We have answered all the questions in both Section-A items 1 to 21 and Section-B items 1 to 10 after careful consideration.

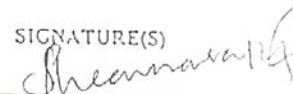
We hereby confirm that to the best of our knowledge and belief this patent proposal is novel (i.e. having novelty on a world-wide basis) and is our original work.

INVENTOR(S)

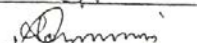
NAME(S)

SIGNATURE(S)


THENNAVARAJAN SUBRAMANIAN



ALOYSIUS RAJAPPAAN PADMAVATHY



GURUSWAMY PERUMAL



SYAMAPRASAD UPENDRAN



NAME & SIGNATURE

LABORATORY IP COORDINATOR

LABORATORY NAME: REGIONAL RESEARCH LABORATORY, TRIVANDRUM

QUESTIONNAIRE

(TO BE COMPLETED, SIGNED AND SENT ALONGWITH EACH PATENT PROPOSAL TO IPM DIVISION, CSIR)

NAME OF
LABORATORY: REGIONAL RESEARCH LABORATORY, TRIVANDRUM

PATENT PROPOSAL REFERENCE NUMBER: NF-
(To be filled by IPMD, CSIR)

SECTION-A

The Patent proposal titled: SUPERCONDUCTIVE CONTACTS IN BULK OXIDE SUPERCONDUCTOR FOR HIGH-CURRENT APPLICATIONS AND METHOD OF FORMING THE SAME

- | | PLEASE TICK
Yes/No |
|--|-----------------------|
| 1. Is new (Novel) and useful. | Yes/No ✓ |
| 2. Relates to a process, method or manner of manufacture. | Yes/No ✓ |
| 3. Relates to a machine, apparatus or other article. | Yes/No ✓ |
| 4. Relates to a substance produced by manufacture. | Yes/No ✓ |
| 5. Is a new (Novel) & useful improvement of 2, 3 or 4 above. | Yes/No ✓ |
| 6. Relates to a substance intended for use or capable of being used as a food. | Yes/No ✓ |
| 7. Relates to a substance intended for use or capable of being used as a medicine / drug (including insecticides, germicide, fungicide, weedicide, herbicide). | Yes/No ✓ |
| 8. Relates to a substance prepared by chemical process (including alloys, optical glass, semi-conductors & inter-metallic compounds). | Yes/No ✓ |
| 9. Relates to atomic energy. | Yes/No ✓ |
| 10. Is a mere discovery of a Scientific Principle or the formulation of an abstract theory. | Yes/No ✓ |
| 11. Is a mere discovery of a new property of known substance. | Yes/No ✓ |
| 12. Is a new use for a known substance. | Yes/No ✓ |
| 13. Is a mere use of a known process / method. | Yes/No ✓ |
| 14. Is a mere use of a known machine / apparatus / device. | Yes/No ✓ |
| 15. Relates to a composition / formulation. | Yes/No ✓ |
| 16. Relates to a mere admixture of ingredients. | Yes/No ✓ |
| 17. Relates to a synergistic mixture of ingredients. | Yes/No ✓ |
| 18. Is a mere arrangement or rearrangement or duplication of known devices each functioning independently of one another in a known way. | Yes/No ✓ |
| 19. Relates to a method or process of testing. | Yes/No ✓ |
| 20. Relates to a method of agriculture or horticulture. | Yes/No ✓ |
| 21. Relates to a process for the medicinal, surgical, curative, prophylactic or other treatment of humans, animals or plants. | Yes/No ✓ |

PLEASE TURN OVER →

The patent filed in INDIA